



THE ASSAM GAZETTE

অসাধাৰণ

EXTRAORDINARY

প্ৰাপ্ত কৰ্তৃত্ব দ্বাৰা প্ৰকাশিত

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No. 181 Dispur, Wednesday, 3rd April, 2024, 14th Chaitra, 1946 (S. E.)

GOVERNMENT OF ASSAM

ORDERS BY THE GOVERNOR

DEPARTMENT OF HOUSING AND URBAN AFFAIRS

NOTIFICATION

The 19th October, 2023

ECF No. 230625.- In exercise of the powers conferred by the section 9 (nine) of the Assam Town & Country Planning Act. 1959 (Assam Act. II of 1960) read with Sub-section 1 of section 10 (Ten) of Assam Town and Country Planning (As amended), the Governor of Assam is pleased to publish the following notice regarding the publication of Draft Master plan for Greater Kharupetia Area.

NOTICE FOR THE PUBLICATION OF DRAFT MASTER PLAN FOR GREATER KHARUPETIA AREA

1. It is notified that the Draft Master plan for Geater Kharupetia Area prepared by the Directorate of Town & Country Planning, Government of Assam, Town & Country Planning Act. 1959 read with Sub-section 1 of section 10 (Ten) of Assam Town & Country Planning Act (As amended), for the area described in the schedule below is hereby published.
2. Any person or persons affected by the Draft Master plan may submit their objection or opinion in writing to the Director, Town & Country Planning, Government of Assam, Dispur, Guwahati-6 within two months from the date of publication.
3. The Draft Master plan for Greater Kharupetia Area with all relevant papers and maps may be inspected free of Cost during office hours at the Office of the Director, Town & Country Planning, Government of Assam, Dispur, Guwahati-6, Office of the Deputy Director, Town & Country Planning, District Office- Mangaldai, the Circle office, Dalgaoon Revenue Circle, Dalgaoon, Office of the Chairman, Kharupetia Municipal Board, Kharupetia, Copies of the draft master plan for Greater Kharupetia Area are available at the Office of the Deputy Director, Town & Country Planning, Mangaldai on payment.

SCHEDULE**Situation and Areas:**

District : Darrang
 Sub-Division : Mangaldai
 Revenue Circle : Dalgaon
 Approximate Master Plan Area : 60.48 Sq. Km.
 State : Assam

(A) Municipal Area (B) Revenue Villages included in the Draft Master Plan for Greater Kharupetia

Mouza	Sl. No.	(A) Municipal Areas	Dag No.
Kharupetia Mouza	1.	Kharupetia Town Part-I	All Dags
	2.	Kharupetia Town Part-II	Do
	3.	Kharupetia Town Part-III	Do
	4.	Kharupetia Town Part-IV	Do
	5.	Kharupetia Town Part-V	Do
	6.	Kharupetia Town Part-VI	Do
	7.	Kharupetia Town Part-VII	Do
		(B) NAME OF VILLAGES	
	8.	Niz Kharupetia	Do
	9.	Bologarah	Do
Shyamabari	10.	Pub Chuba	Do
	11.	Ganakarmati	Do
	12.	Ojagaon	Do
	13.	3 no. Theheraguri	Part

	14.	Nadimukh	Part
Pachim Sialmari	15.	Keot Chuba	Do
	16.	Islampur	Do
	17.	Baigarmari	Do
	18.	Khetachar	Do
	19.	Khetachar No. 1	Do
Pub Sialmari	20.	Dhekerigaon	Do
	21.	Kacharipara Jangal	Do
	22.	Rohini Kash	Do
	23.	Konakatapara	Do
Pub Dalgaon	24.	Chakara Gaon	Do
	25.	Chikanmati No. 2	Do
	26.	Dalgaon Town	Do
	27.	Niz Dalgaon	Do
	28.	Mowamari	Do
	29.	Mandalpara	Do
	30.	Bahabari	Do
	31.	Alikash	Do
	32.	Bihdia	Do

Pachim Dalgaon	33.	Khakhjani	Do
	34.	Gadhajhar	Do
	35.	Baroipara	Do
	36.	Jamalpur	Do
	37.	Kakalbhanggi Jogigaon	Do
	38.	Batabari	Do
	39.	Niz-Gadaijhar	Do
	40.	Barigaon	Do
	41.	Kamarpara	Do
	42.	Niz Nagajan	Do
	43.	Nagazan	Do
	44.	Kacharipara	Do
	45.	Dalgaon Khuti	Do
	46.	Ghansimeli	Do

BOUNDRY DESCRIPTIONS:

North : Chakarabasti, Baruajhar No-3, Baruapara.

East : Jhakuapara, Gorakhat, Kharpari Chapari.

South : Arimari No.-1,2,3,4, Kachamari Char.

West : Tangni River, Fakirpara, Bhotphukhuri.

KAVITHA PADMANABHAN,
Commissioner & Secretary to the Government of Assam,
Department of Housing and Urban Affairs,
Dispur, Guwahati-6

CHAPTER -I

1.0. INTRODUCTION :

Preparation of Master Plan is an envisioning process which requires sound assessment of the ground realities for providing options for sustainable development within the bounds of the demographic, physical, socio-economic, jurisdictional and financial aspects and it is a continuous process. It is required to achieve overall development of a town in a co-ordinated manner.

Kharupetia is one of the two main towns in Darrang District other being Mangaldai Town. The National Highway-15 connecting Dhekiajuli and Tezpur towards east and Mangaldai and Guwahati towards west passes through Kharupetia town. Therefore, its strategic location besides the NH makes it a very important commercial and trade hub giving the town its own identity.

Kharupetia town has been functioning as one of the important transport nodes and trade and commercial centre in the district. The economy of the town is mainly governed by tertiary activities. The Town serves a vast hinter land which are mainly agrarian in nature and it is an important center for agricultural produce. A numbers of agro based industries are being set-up during the recent past and there are scope for further development in this sector. Paddy, jute, sugarcane, wheat, kharif and rabi vegetables etc. grow in surrounding villages are marketed through the town. The soil of surrounding area is fertile and hence this town is a major contributor of agricultural production to the state.

While preparing this Master plan for Kharupetia, various surveys, such as land use, socio-economic, traffic surveys etc. were carried out to understand the existing conditions of the town. Necessary interpretation and analysis of the data collected were carried out in order to assess the urbanization scenario and to guide the future growth.

The present area for Greater Kharupetia Master Plan has been demarcated after careful study of the present physical feature of the surrounding areas and the future scope for development etc.

1.1. LOCATION & BACKGROUND:

The Kharupetia Town is located between 26° 28' 58'' North to 26° 32' 08'' North latitude and 92° 07' 39'' East to 92° 10' 14'' East Longitude. The average altitude of the town is 64 metre above mean sea level.

Kharupetia Town is located at about 90 kms from Guwahati city on the northern bank of the Brahmaputra river and is well connected by roads. Kharupetia gained the status of town in 1961 with constitution of notified Town Committee which was later on upgraded into a status of Municipal Board in 2018 comprising of an area of 2.36 Sq Km with 11 Municipal Wards.

The economy of original undivided Darrang District was based on agriculture and accordingly the town has developed as a agro based commercial town.

1.2. GREATER KHARUPETIA MASTER PLAN AREA:

The total area of Greater Kharupetia Master Plan is 60.48 Sq Km including Kharupetia Municipal Area. Kharupetia Municipal Area covers only 2.36 Sq Km. Greater Kharupetia Master Plan Area consists of 39 nos. of villages surrounding Kharupetia Town apart from the Kharupetia Municipal area and Dalgaon Town area. Dalgaon is a census town and is also an important administrative and commercial

town and growing rapidly. As these town centers are contiguous, they are clubbed together to make a single Master Plan, namely, Greater Kharupetia Master Plan.

1.3. PHYSICAL FEATURES:

Physiographically, Greater Kharupetia area are situated on flat alluvial plains. The mighty river Brahmaputra flows along the southern side of the town. Two tributaries namely Tangni river and Nimtoli river passes through the Master Plan area. The river Tangni is the western most boundary of the Master Plan. Both the rivers, Tangni and Nimtoli originates from the foothills of Bhutan Himalayas and flows from north to south. During monsoon the surrounding villages of the rivers are affected by floods.

1.4. CLIMATE:

Kharupetia has similar climatic condition with the rest of the Brahmaputra valley region with hot humid summer and cool, dry winter season. Topography of the town is mostly flat and plain. Maximum temperature 36.4° C and minimum 8.40° C, with humidity 93% in the rainy season/ summer and 63% in the winter.

Average annual rainfall is about 1894.40 mm. The monsoon commences from the end of March and intensity gradually increases up to August and then declines to the minimum during October and November.

1.5. HISTORY:

As it is believed and as per a folk lore, the origin of the name “Kharupetia” has come from “Kharu” meaning bangle worn by women. During the pre-independent period, the river Brahmaputra was flowing by this place and then a steamer-ghat was established at this location. A large bangle or “Kharu” was dug out by some cultivators at the steamer-ghat presently known as Mela-Ghat. As per belief of local inhabitants this “Kharu” was left by some divine mother or Goddess and thus the

town received its present name “Kharupetia” from this word “Kharu”. This steamer-ghat has been gradually converted in to present Kharupetia Town.

CHAPTER-II

2.0 POPULATION AND CITY FUNCTION:

Growth and decay of a human settlement is influenced by the character and magnitude of functions discharged by the settlement, its economics and communication network and relationship with the hinter land. The settlement performs a certain set of functions, some of which are of local in nature, whereas others have regional and national dimensions. The growth or change in population of a town, unless some special stimulus is injected, are often correlated to the corresponding change in population in the hinterland. A town being a commercial and service oriented in nature attracts a good number of populations from the surrounding villages who migrate to towns in search of livelihoods. A faster growth rate of a town generally refers to economic potential and therefore a study in change in the population and its composition for such an area, enables to foresee the growth potential of the urban area for a period for which the Master Plan is envisaged.

It is imperative that studies on age-sex structure, population growth, occupational pattern etc. would help to make assessment of needs in respect of Housing, Commerce, Public Utilities, Recreation, Amenities etc. It is envisaged that the proposed Master Plan for Greater Kharupetia would be able to cater to the aspirations of the population for whom the plan is prepared.

2.1. POPULATION GROWTH:

An observation of Table I will reveal that the decadal population growth of the Master Plan Area from 1971 to 1991 was highest which is 163.28%. This can be

attributed to the huge migration that took place during this period that settled around this localities who are basically migrant agricultural workers. The growth rate slowed down to 8.12 % 1991-2001 due to stagnancy in development which further grew to 27.45 % during 2001-2011. It is to be noted here that during this period the connectivity to upper Assam improved due to improvement of National Highway and other communication network .

TABLE-I
Growth of Population in Greater Kharupetia Master Plan Area

Year	Population	Decadal % of growth
1971	30,852	-
1991	81,228	163.28
2001	87,821	8.12
2011	1,11,927	27.45

Source: Census of India

2.2. SEX RATIO :

The sex-ratio of an urban settlement is often influenced by the migration trends of working force and the housing situation. The male generally ventures out and leaves his family behind and remains alone in the new settlement until and unless he has acquired a regular employment and some accommodation. Thus an adverse sex-ratio is an indication of high migration rate and short housing supply. The overall sex ratio of the town has increased from 724 in 1971 to 859 in 1991. Further the sex ratio increased from 910 in 2001 to 945 in 2011. Increasing sex ratio is an indicator of more female participation in work force while adverse sex ratio may indicate a rapid growth of urban center.

2.3. OCCUPATION AND EMPLOYMENT PATTERN :

2.3.1 WORK FORCE PARTICIPATION RATE :

Work Force or Labour force participation rate is defined as the section of working population in the age group of 16-64 in the economy currently employed or seeking employment. People who are still undergoing studies, housewives and persons

above the age of 64 are not reckoned in the labour force. The capacity of an urban area to provide variety of jobs and absorbing its working population in various sectors is an indicator of the economic viability of the urban area. The participation rate also gives us an idea of the share of gainfully employed persons against the dependent and non-working population. Generally the participation rate is high in urban areas which are growing rapidly. In case of Kharupetia Town, there was a decreasing trend in the participation rate from 29.76 % in 1971 to 28.62 % in 1991. However it slightly improved to 31% in 2001 and in 2011 the same was recorded at 36% indicating a slow growth.

2.3.2. OCCUPATIONAL PATTERN :

A close look in the occupational pattern in Greater Kharupetia Master Plan area at Table –III will reveal that the secondary and tertiary sectors have gained at the cost of primary sector. The share of workers in tertiary sector has increased from 9.30 % in 1971 to 21.50 % in 2011. For the similar time period the share in the primary sector has decreased from 85.20 % in 1971 to 66.80 % in 2011. The secondary sector shows significant growth

Sectors	Percentage of workers to total main workers						
	1971	1991			2011		
	Total Workers	Total Workers	Male	Female	Total Workers	Male	Female
Primary	85.20	76.0	68.0	8.0	66.80	60.68	6.12
Secondary	5.50	7.60	6.90	0.70	11.70	8.40	3.30
Tertiary	9.30	16.40	11.60	4.80	21.50	16.0	5.50

**Table -II Greater Kharupetia Master Plan Area
Temporal Variations of Workers in Different Sectors 1971-2011**

from 5.50 % in 1971 to 11.70% in 2011. It needs to be mentioned here that Government sector services and Trade and Commerce comprise a large volume of the Tertiary Sector in Greater Kharupetia Master Plan Area.

The shift in occupational pattern unveils that the town is growing as an Trade and Commerce centre. Generally this trend would continue with Trade and Commerce being one of the major functions of the town in years to come in the same rate or even less unless some major thrust is given.

2.3 MAJOR URBAN FUNCTIONS :

Like human personality, urban areas are also attached with intangible values like status and character. Activities of the urban dwellers which emerge from the urban functions are often manifested in the physical development of the town. A harmonious blending of the 'function' and the 'activities' leads to a healthy and orderly development of the urban area reflecting its true 'personality' and 'character'.

It is universally accepted fact that 'form' follows 'function'. The clarity of function reveals a true forms . If the functions are not well defined and harmoniously blended the 'Form' may get confused and result in clumsiness and chaos.

Following are the major functions of Greater Kharupetia Master Plan Area:

2.3.1. ADMINISTRATIVE :

Kharupetia is a statutory Town of Darrang District and Kharupetia Municipal Board is the urban local body. Dalgaoon on the other hand has a Circle Office. Accordingly administration is one of the important functions of the Master Plan area. Other services are also supportive to this function.

2.3.2. INDUSTRIAL :

Agriculture is the major occupation in the surrounding area of Greater Kharupetia Town and accordingly only agro based industries like rice and oil mills along with food processing industries are prevalent in the Master Plan area. The town is devoid of any major industrial activities or manufacturing units except a few brick manufacturing, stone quarrying industries.

2.3.3. COMMERCIAL :

Greater Kharupetia Town serves a vast rural hinter land. For consumable goods and other inputs for agriculture etc. the rural area is dependent on the town. This is one of the major economic activities of the town and an important function. The towns like Rowta, Mazbat and Udalguri etc are also dependent on Greater Kharupetia. Therefore, this sector has some potential to boost the economy of the Master Plan area in future.

2.3.4 EDUCATIONAL :

The Greater Kharupetia Master Plan area is emerging as an important educational center in the region. Institutions from primary education to higher educational facilities are present in the area., The District Institute of Education & Training (DIET), Veterinary Training Centre, and many Government as well as private institutes are established in this locality. With the establishment of Pandit Dindayal Upadhyay Science College, this Greater Kharupetia area gained more prominence in educational map of the region.

CHAPTER -III

3.0 PHYSICAL GROWTH AND EXISTING LAND USE PATTERN

In order to conceive a justifiable land use proposal for an integrated urban structure for the Greater Kharupetia Master Plan area it is imperative to understand the existing land use patterns. Present disposition of the activities in the town and around, along with the existing growth trends and other physical impediments etc. are required to be identified and studied first before proceeding further.

3.1. PHYSICAL GROWTH TRENDS :

The National Highway 15 runs east-west through Kharupetia town. One of the important State Highways, namely, State Highway 13 connects Kharupetia Town with Udalguri and nearby areas. There is also connectivity with Tangla Town via Kalaigaon. A well established ribbon development could be seen as all the major developments have taken place along this National Highway and State Highways. However, development thrust could be observed along the NH-15, east-west and along SH- 13, north-south. In absence of a good road network, the hinterlands along these roads are not well developed. There are still empty pockets within a busy residential area.

3.2. LIMITING FACTORS :

Greater Kharupetia Master Plan area is mostly a plain area. The areas to the south of the existing National Highway are low-lying and basically flood plain of Brahmaputra river and hence liable to flooding. Any development proposed south of National Highway will call for proper flood protection works along with earth filling which shall require a sizeable resource and thus it can be a limiting factor for further development in this direction.

3.3. LAND USE ANALYSIS :

A study of the existing land use pattern of Kharupetia and surrounding area is required to assess the development pattern and also spatial disposition of various activities. This will influence the future trend of development and also act as a guiding principle to chalk out policies for future development of Greater Kharupetia Master Plan area.

3.3.1. LAND USE CLASSIFICATION

In order to understand the dynamics of land uses in the Master Plan area and the relationship among various uses, land uses has been classified in to following 12 (twelve) categories. Following are the categories :

- (1) Residential
- (2) Commercial
- (3) Industrial.
- (4) Public – Semi public
- (5) Recreational
- (6) Open space
- (7) Green Belt
- (8) Eco Zone
- (9) Agriculture
- (10) Water bodies.
- (11) Transport
- (12) Special Zone

The above land classifications would broadly cover all the land uses in the Master plan area and would facilitate a comparative study of existing and proposed land uses.

3.3.2 EXISTING LAND USE PATTERN :

An analysis of the existing land use pattern will reveal that the proposed Master Plan area is predominantly Agricultural with highest share of land use - 60.70 %. This is followed by the residential use which is 23.73%. This can be attributed to the fact that majority of the area are under the Master Plan are rural in nature and actually villages. Existing residential development are plotted development and no apartment building has really come up in Greater Kharupetia locality.

Eco Zone occupies 4.23% which are basically char areas and dead channels which needs conservation. The share of land under Public- Semi public is 2.55% . Share of land in the Master plan Area under Industrial use is negligible which is only 0.62%. The Industries is mostly brick manufacturing units and some light agro-based industries. The use of land under recreation, open space and green belt are also minimal which is required to be relooked in order create a balance in land use pattern in Greater Kharupetia Master Plan.

TABLE- III**Existing Land Use pattern of Greater Kharupetia Master Plan Area, 2021**

Sl	Land Use Categories	Area in Ha	PC of total area
(1)	Residential	1435.73	23.73
(2)	Commercial	92.66	1.53
(3)	Industrial.	37.40	0.62
(4)	Public – Semi public	154.33	2.55
(5)	Recreational	9.00	0.15
(6)	Open space	10.60	0.18
(7)	Green Belt	31.56	0.52
(8)	Eco Zone	255.92	4.23
(9)	Agriculture	3671.05	60.70
(10)	Water bodies.	130.88	2.09
(11)	Transport	142.98	2.36
(12)	Special Zone	0	0

(13)	Govt. Land	75.88	1.25
	Total Area	6048.00	100

3.3.3 INTER RELATIONSHIP OF LAND USES :

Majority of the offices and important uses under Public semi public have come up along the National Highway. Further the area on both sides along the NH 15 and SH 13 leading to Udalguri Town are also developed as major residential area in the town leading to pressure and traffic congestion along these principal roads. This has lead to chaotic situation many a times causing fatal road accidents.

Further the hierarchy in commercial uses, namely, wholesale and retail is missing which has caused severe traffic and environmental issues. The retail commercial activities has to be dispersed all around the Master Plan in terms of shopping complexes to increase the efficiency to decrease the pressure in the town center.

There are Government land within the Master Plan Area which are basically reserved for farming by Agriculture Department which are under utilised. There are ample scope to put these land into better and efficient uses.

CHAPTER -IV

4.0. HOUSING :

Residential areas cover a major portion of an urban settlement at any point of time which influence significantly the total quality of urban life which in turn affects the efficiency of the settlement . In fact, the total urban form and character emerges from the quality of housing areas and its interrelationships with work centre and other non-residential uses.

Generally speaking the word housing means dwelling units in terms of quality and quantity along with peripheral facilities. Accordingly quality of housing is more dependent on the elements of housing areas such as disposition of various amenities, layout of developed land, provision of roads, water supply, sewerage, drainage and provision for basic facilities like shops, school, parks etc. An effort has been made to study various issues related to housing in totality in this context in Kharupetia Town.

As mentioned earlier, an observation of development pattern in residential sector in Kharupetia Town will reveal that low density, linear and sprawled up development is one of the major reason for aggravated problems as well as shortage in the basic infrastructure facilities. It is obvious that such development calls for a considerable investment in order to provide the residing community with the requisite infrastructure such as water supply drains and sewerage. To make the situation worse the revenue generated from such a community also very less which makes it difficult for authority to maintain such facilities. This in turn leads to poor quality of housing as well as poor quality of life.

This factor needs to be taken into consideration while addressing various problems of housing in the town.

The table- IV gives the dispersal of residential activity in various wards in the town. A look in this table will reveal that ward no. II has the highest concentration of residences and in contrary the ward no. I has the lowest concentration as most of the lands are occupied by Commercial activities and other public uses.

TABLE -IV

Percentage of Residential Area in Kharupetia

SL. No.	Ward No.	PC of Residential Area
1.	I	49.2
2.	II	76.5
3.	III	58.6
4.	IV	51.20
5.	V	69.2
6.	VI	59.1
7.	VII	64.5
8.	VIII	63.5
9.	IX	63.8
10.	X	41.2
11.	XI	52.2

4.1. LIVING CONDITION :

Living conditions of residential areas is inter-related with the environmental issues. In order to understand and identify the problems of these areas it is essential to examine the living conditions of these areas both qualitatively as well as quantitatively. Qualitative aspect of living environment covers study of housing areas in terms of structural conditions, standard of services , relationships of housing areas and work centers, provision of services like education, health and recreation, provision of services like water supply, drainage and transportation linkages, while quantitative aspect covers tenure states, housing shortage, residential density and occupancy rate etc.

4.1.1. GROWTH OF HOUSING AREAS :

Urban housing is mainly confined to the Municipal limit. The residential areas shown outside the Municipal boundaries are rural housing. The land utilization rate within the Municipal areas is around 6.82 Hectares for 1,000 person. Whereas the utilisation rate outside the municipal limit is around 20 hectares per 1000 persons. This suggests a very low utilisation rate of residential areas. This will act as one of the deciding factors for determining the residential densities.

A look into housing development in the Master Plan area will reveal that activities are more concentrated in two specific nodes, Kharupetia and Dalgaon. Rest housing activities in the Master Plan area are scattered and dispersed along the road leading to hinterlands. Clear agricultural pockets could be seen in residential area.

There is no identified slum-pockets in Kharupetia Municipal area within the town.

4.1.2. RESIDENTIAL DENSITY :

The study of residential density enables us to understand aspects such as intensity of use of urban land, problems of overcrowding arising out of high occupancy rates, building bulk, provision of open space and amenities etc.

The Table -V reveals that Ward no. IV has the highest concentration of population with density 210.10 person per Ha. This is natural as this ward is a part of the town centre. At the other extreme end is Ward no. IX, where the residential density is only 43.76 persons per Ha.

TABLE - V
Density of Kharupetia Town

Sl	Ward No.	Density (Person/ Ha)
1	I	77.36
2	II	86.58
3	III	165.03
4	IV	210.10
5	V	206.03
6	VI	133.94
7	VII	175.97
8	VIII	138.88
9	IX	43.76
10	X	173.63
11	XI	104.07

The flowing Table- VI classifies the wards in terms of High, Medium and Low density for better understanding of dispersal of population density within the municipal limit.

TABLE -VI
Density Pattern of Kharupetia Town

SI	Density range (in Persons/ Ha)	Wards	Population	Residential area (in Ha)	Population %	Area %
1	> 240	Nil	Nil	Nil		
2	100-239	III, IV, V, VI, VII, VIII, X, XI	24159	94.58	74.08	33.75
3	< 100	I, II, IX	8454	105.98	25.92	28.87
Total Population in Municipal Area			32613	200.56	-	-

*Kharupetia Municipal Board, 2021

A close look into the Table VI reveals that majority of the population (74.08 %) resides in 33.75% of the total residential area which are basically medium density wards (100 - 239). 25.92 % of population in Municipal Area occupies 28.87 % of total residential area which are basically low density wards.

4.1.3 AVERAGE HOUSEHOLD SIZE :

Average house hold size in Kharupetia Town ward wise ranges from 4.40 in ward no. IX to 5.91 in ward no. I. However at Town level the average House hold size is 6.63 which is slightly on higher side.

Table VII gives the detal regarding this.

Table - VII
Average House Hold Size of Kharupetia Town

Sl	Ward No.	Persons/ dwelling unit
1	I	5.91
2	II	5.30
3	III	6.01
4	IV	5.64
5	V	5.40
6	VI	5.19
7	VII	5.69
8	VIII	5.13
9	IX	4.40
10	X	5.09
11	XI	5.22

4.2 STRUCTURAL CONDITION :

Out of total housing stock in Kharupetia, 67.91 % are Assam Type building with C.I sheet roofing and RCC posts. There is a remarkable development in this sector due to implementation of PMAY(U) by Kharupetia Municipal Board. 15.86 % are thatched roof, kutcha building and only 16.23% are RCC structures. As far as housing conditions are concerned 44.55% are in good condition and 12.30 % are in a condition not livable.

Generally speaking the type of housing is one of the important parameters of investment capacity of its residents. The quality and quantity of housing increases with the income and affordability of the residents.

Table - VIII
Type & Structural Condition of Housing in Kharupetia

TYPE OF TRUCTURE			CONDITION		
R.C.C	Assam type	Thatch	Good	Fair	Bad
16.23%	67.91%	15.86%	44.55%	43.15%	12.30%

Source :- Survey by Town & Country Planning

4.3. DEVELOPMENT TRENDS

An overall study of the housing activities in town will reveal that mostly residential activities are taking place along the NH-15 and towards northern part with concentration in Kharupeti and Dalgaon nodes. Development towards southern part of NH is sparse. Ribbon development in residential area observed along the areterial and sub arterial roads connecting the villages towards north.

CHAPTER -V

5.0. COMMERCE, OFFICES AND INDUSTRIES :

Greater Kharupetia area is famous for vegetable production and has cut a niche in the agro based markets in Assam. Both Rabi and Kharif crops are cultivated in nearby villages and grows abundantly. Its produces, specially seasonal vegetables, are supplied not only to surrounding districts and Guwahati City, but also to nearby states, namely, West Bengal, Meghalaya and Tripura. Thus over the time this area has grown up basically as a commercial hub for agro and agro based product.

As the Circle Office is situated at Dalgaon, it is also an administrative hub for the revenue matters for the vast rural hinterland.

People from surrounding villages commute to the town on day to day basis to work in the service sectors and also to buy and sell produces in the wholesale and retail market. Trade and Commerce, thus, is one of the most important sectors with 21.50 % share of workers as per 2011 census.

There is no such remarkable industries in and around Greater Kharupetia area except a few rice and oil mills, food processing, house hold industries, brick and RCC structure manufacturing units, food product units and bakeries.

Taking into consideration the existing agricultural base and also the importance of the town as Commercial hub, both wholesale and retail, there is a possibility to guide the development of the Master Plan area as Commercial cum Agro based and food processing Center along with other possibilities. This may be taken into consideration while framing the policies.

5.1. COMMERCIAL-CUM-SHOPPING CENTRE :**5.1.1. WHOLESALE TRADE :**

Table - IX
Details of Commercial Establishments

WHOLE SALE	RETAIL	TOTAL
233	1011	1244

Out of total 1244 nos. of commercial establishments in Kharupetia Municipal Area 233 nos. are whole sale shops and rest 1011 nos. are retail shops dealing with different trades.

The wholesale trade is generally located in the town centre along the NH-15 and deals mainly with agricultural products, agricultural machineries and accessories, motor parts and servicing equipment, hardware and clothes. Since majority of the establishments are situated on the road side, it creates parking problems leading to traffic congestion and many a time accidents.

Table - X
Trade and Commerce within Kharupetia Municipal Area, 2021

Sl	Trade	Nos.	Sl	Trade	Nos.
1	Groceries	74	16	Jewellery	22
2	Cloth	219	17	Pan Shop	21
3	Mills	50	18	Trade agency, Furniture House	32
4	Stationeries	74	19	Cycle Shops	14
5	Agency	52	20	Petrol Pump/ Gas Agency	4
6	Medicine	62	21	Fertilizer/ Agro	42
7	Electrical	50	22	Saloon	22
8	Jute material	25	23	Hardware	66
9	Garage/ Motor Parts	74	24	Tailoring	21
10	Timber	3	25	Weigh Bridge	4
11	Book Stall	10	26	Packaging Material	14
12	Scrap Material	5	27	Vegetable Shop	16
13	Wine Shops	4	28	Fish	24
14	Small Industry	19	29	Financial Institution	7
15	Tea Stall	26	30	Crops/ Grain	188

5.1.2. DAILY AND WEEKLY MARKETS

Following are the daily and weekly markets within the Greater Kharupetia Master Plan Area.

1. Balugaon Bazar Weekly Market
2. Harizan Colony Daily Market at Ward No. 4
3. Society Bazar (Daily Market, Kharupetia Agricultural Marketing Society) at Ward No. 3
4. Nageswra Bazar (Daily Market) at Ward No. 9, Nageswar
5. Balugaon Sabzi Bazar (Daily Market) at Balugaon
6. Dalgaon Bazar (Daily Market) at Dalgaon

These markets cater mostly in food grains and local produces such as vegetables, poultries, fish, meat and craft items etc. They also serve as 'Mandies' as traders from other towns also visit these areas. Though they serve as trade hubs, there is lack of organized facilities. Accordingly there is a need to look into these issues in this Master Plan.

5.1.3. RETAIL TRADE CENTRES:

(a) TOWN CENTRE :

Major portion of ward no. III is basically the retail centre for the town. The shops are mainly clothes, ready made garments, books, stationeries, medicines, cycle and sweet shops and all are mixed and housed in private building along the NH-15. There are also a few categories such as weaving material and agro products catering mainly to the commuters coming to town. The roads in town area are narrow except the Highway and devoid of any planned drainage system. Further, parking facilities are limited due to which vehicles are parked mostly in the road sides creating traffic congestion.

(b) MUNICIPAL MARKET :

There are 4 (four) municipal markets within Kharupetia town. Total nos. of shops accommodated in these markets are 348. Further 111 nos. are shop owners were allotted lands to build their own shops by the Municipality. However, there are lack of parking and other facilities in these markets which needs to be addressed.

(C) OTHER SHOPPING CENTRES :

Smaller unorganised neighbourhood shops are located all throughout the Master plan area serving the local residential centres. Shopping complexes and shopping malls are coming up in the town to cater to the need of consumers under one roof. There are 4(four) nos. of shopping complexes and malls at different localities within Kharupetia – Dalgaon Master Plan area which are : Vishal, V-Mart, Reliance Smart and Reliance Trend.

5.1.3. ISSUES RELATED TO TRADE AND COMMERCE :

The commercial space in town centre of Greater Kharupetia is growing haphazardly. Further the facilities required, such as parking are inadequate resulting in congestion. The wholesale and retail facilities are all mixed up aggravating the situation.

There are some incompatible uses such as Rice and Oil mills operating in the Commercial space. Such uses are required to be relooked which are to be addressed while formulating policies for the Master plan.

5.2. ADMINISTARTIVE CRENTRE AND OFFICES :

Kharupetia is a statutory Town of Darrang District and Kharupetia Municipal Board is the urban local body. Dalgaon on the other hand is a census town and has a Circle Office. Accordingly administration is also an important function of the Master Plan area. Other services are also supportive to this function.

The Government Establishments in Greater Kharupetia Master Plan area are scattered all over the town which creates inconvenience to public. Most of the accommodation for Government Offices are in old buildings and are in dilapidated state. Further there are also shortages of permanent office accommodations. Ideally,

for greater public convenience, all the Government offices are to be located centrally with proper communication from various locations.

5.3. INDUSTRIES :

Industries are the of economic growth. They provide employment opportunities, create a market along with other forward and backward linkages. Industrialisation of a settlement is an important parameter of urbanization and economic growth.

There are countable number of remarkable industries in Greater Kharupetia except for a few small-scale and household industries. Most of the industries are agro based with a few brick manufacturing and concrete industries.

Besides these, a number of engineering workshops, furniture workshops, printing press, automobile repair shops are there to cater to the need of people. As per DIC, there are altogether 3 nos. of functional industries employing 143 persons at present. The table XI gives details of industrial units by type in Greater Kharupetia Master plan Area.

Table - XI

Industrial Establishment by type for the year 2021

Category	Total No.	No. of Employee
Small	2	49
Medium	nil	nil
Large	1	94
Total	3	143

CHAPTER -VI

6.0. TRAFFIC AND TRANSPORTATION :

Transportation network of a city plays an important role in the city's economy as well as in sociocultural life. A well laid road network increases the efficiency of the settlement with enhanced functionality and can provide answers to many problems of urban life.

The efficiency of the road network needs to be examined both in terms of inter-city and intra-city movement. As the demand for movement of passengers and goods are growing, it calls for systematic analysis of the situation, such as circulation pattern, road capacities, accessibility, so as to address the issues both through short term as well as long term measures.

This primarily calls for traffic surveys, engineering surveys, points of traffic generations and quality of infrastructure which needs to be related to existing land use pattern. An analysis of the traffic surveys carried out at various locations of existing network would highlight major issues which will guide us to improve the existing transportation network as well as the traffic conditions.

6.1. REGIONAL TRANSPORTATION SYSTEM :

The Greater Kharupetia master plan area is connected only by road. The National Highway 15 connecting the northern bank of Assam and the state of Arunachal Pradesh with the rest of the country passes through the heart of Greater Kharupetia Master Plan area. This NH 15 connects the area with Guwahati via Mangaldai and Baihata Chariali towards west and with Tezpur town towards east via Rowta Chariali.

The State Highway 13 connects this area with Udalguri Town, district head quarter of Udalguri District, which is situated at 32 km north of Kharupetia Town. Another important state road links the town with the nearest railhead, Tangla Town via State Highway 4 situated at a distance of 40 km towards north west. Towards east,

Dalgaon area is also connected to vast hinter land via Kopati and Bechimari which eventually connects with NH 15 towards north either via Simaluguri or Dakhin Chuba area.

6.1.1. REGIONAL TRAFFIC, PASSENGER

The Kharupetia – Dalgaon area is well connected with Guwahati on one side and Tezpur on the other. More than 7 buses of the ASTC plies regularly to and from Guwahati and Tezpur via Mangaldai and Kharupetia. Besides, there are private buses which runs frequently between these two towns. Private buses also ply to Tangla and Udalguri which connects Master Plan area with the surrounding rural hinter land.

Kharupetia being the trade center for the agricultural produce, a considerable traffic converges in from the surrounding rural areas during the early morning hours and moves out during the evening. The traffic also consists of considerable amount of commuters. Since NH 15 connecting lower Assam and Guwahati with northern bank and Arunachal Pradesh passes through this town, a considerable amount of traffic consists of this through fare traffic further aggravating the traffic congestion which needs to be addressed by segregating the regional traffic from the local traffic.

6.1.2. REGIONAL TRAFFIC, GOODS :

A considerable amount of goods traffic bound for Arunachal Pradesh and other towns of the north bank of Assam crosses through this area. Further as Kharupetia town and its surrounding area produces seasonal vegetables and other agricultural produces such as Jute, a good volume of the goods traffic are generated from Greater Kharupetia area for other parts of Assam as well as neighbouring States like West Bengal.

Agricultural produces are also transported to Udalguri and Tangla and surrounding hinterlands which originates from Kharupetia as this town also serves as a market town for theses localities. This transportation of goods requires proper infrastructure for storage, loading, unloading and parking and needs to be addressed accordingly.

6.2. CIRCULATION PATTERN :

There is a mixed circulation pattern in the Master Plan area. As the NH 15 passes through, majority of commercial as well as residential development have taken place along the NH, establishing a ribbon development pattern. As the NH 15 runs from East to West, it bifurcates the town into two distinct portions. The southern portion being char area and liable to flooding, most of the development are taking place towards the north.

Majority of the arterial and sub arterial roads are fanning out towards north and east connecting the hinterland with Greater Kharupetia Master Plan area. The Southern part being the Char area and fertile are used extensively for agricultural purpose. The roads connecting the Southern part are largely sub arterial roads and connectors facilitating movements of goods and daily commuters.

6.3. MAJOR ISSUES

(i) The NH 15 passing through the town has been a boon as well as a major hindrance as all the through fare traffic, both passengers and goods passes through this Greater Kharupetia Master Plan area leading to congestion.

(ii) The roads are generally narrow with insufficient carriage width. The effectiveness are further reduced as a major part of the road are used for parking of vehicles and loading unloading of goods.

(iii) There is no designated parking and loading unloading places. With the rise in traffic volume, there will be an increased demand for such facilities which needs to be addressed.

(iv) There is no established hierarchy of roads in Greater Kharupetia Master Plan area. The physical conditions of the roads are also very pathetic. The roads to Udalguri needs to be improved further as this road not only connects Udalguri Town with NH 15 but also connects a vast hinterland with the Master Plan area.

6.4. TRAFFIC TERMINALS :

Location of terminals centres both for inter-city and intra-city traffic play significant role in the efficiency of city traffic. This location in relation to the traffic nodes is also very significant. It is necessary to examine suitability of location of the existing traffic terminal centres.

6.4.1. BUS STATION :

There is one ASTC bus station at the centre of Kharupetia town. There are other stoppage points for private buses in and around the town which are not organised.

6.4.2. TRUCK TERMINAL:

At present there is no organised truck terminal. The whole sale market and daily market being located in the town centres, the trucks park in the main road for unloading their goods. These cause congestion and has to be rectified by making provisions for proper truck-terminal centres.

6.4.4. ELECTRIC RICKSHAW/ RICKSHAW STAND :

There is no organised rickshaw stands in the town. Though majority of the rickshaws ply in the internal roads, they use mainly roads for parking thereby reducing effective width of carriage way.

6.5. TRAFFIC SURVEYS AND PROBLEMS

Traffic surveys were conducted by the District Office so as to identify issues related to traffic and their magnitude. These studies would give better understanding of the traffic patterns and identify the issues to be addressed for a better and efficient traffic operational plan.

6.5.1. TRAFFIC VOLUME :

The study of traffic volume was restricted to the main routes and the survey was carried out at seven junction points. The survey was restricted only to the peak hour so as to arrive at the maximum traffic volume on these roads.

It is observed from the table below that there is a substantial amount of fast traffic plying in the National Highway at all these traffic points which are basically through traffic. There is substantial flow of slow traffic comprising of bicycles, rickshaws, etc. in the incoming traffic at the points. This is because people commute from the villages to Kharupetia town in connection with employment as well as petty businesses. A good number of bicycle commuters consists of student population who utilise the educational facilities from the surrounding rural areas.

TABLE – XII

Peak Hour Traffic Volume (In PCU)
(from 9.30 AM to 11.30 AM)

Sl	Traffic Point	Direction	Fast	Slow	Total
1	Kharupetia Police Point	Incoming	450	216	666
		Outgoing	322	148	470
		Total	772	364	1136
2	Dalgaon Chariali	Incoming	402	195	597
		Outgoing	298	126	424
		Total	700	321	1021
3	Nageswar Chariali	Incoming	348	186	534
		Outgoing	292	121	413
		Total	640	307	947
4	Lovely Chowk	Incoming	355	198	553
		Outgoing	311	136	447
		Total	666	334	1000
5	Assam Oil Tiniali	Incoming	290	189	479
		Outgoing	196	126	322
		Total	486	315	801
6	IB Road Tiniali	Incoming	412	202	614
		Outgoing	303	141	444
		Total	715	343	1058
7	Kharupetia Transport ASTC to Udalguri Road	Incoming	438	208	646
		Outgoing	305	132	437
		Total	743	340	1083

Source: Survey carried out by District Office, Town & Country Planning

6.5.2 PARKING SURVEYS :

Based on surveys carried out by District Office, Town and Country Planning , it is found that there is no organised parking space in the Greater Kharupetia Master Plan Area. Within the town-centre all the vehicles including the goods carrier are parked beside the road creating congestion.

6.5.3. CONDITION OF ROADS :

Good quality roads act as stimulus to urban growth facilitating smooth and speedy movement of goods and passengers reducing travel time which in turn promotes the fuel efficiency in vehicles. In the Master Plan area 47 % of the roads are either black topped or paved. 25% are Gravelled and rest 28 % are earthen roads which are comparatively new roads.

TABLE - XIII

Type of Road in Greater Kharupetia Master Plan Area

Sl	Types of Roads	Percentage
1	Black topped/ paved	47
2	Gravelled	25
3	Earthen	28

CHAPTER VII

7.0 URBAN INFRASTRUCTURE , SERVICES AND AMENITIES

7.1 WATER SUPPLY :

Kharupetia town is presently short of quality water supply facilities. Like wise most towns in Assam, every house hold is equipped with their own system of water supply, source being shallow, deep or ordinary wells within each house hold. The water generally is contaminated with iron which is beyond safe limit.

However, the villages outside the Municipality and within the Master Plan area are presently covered under Jal Jeevan Mission by Public Health Engineering Department. All of these sources are ground water. The standard for water supply to every house hold is 55 LPCD.

TABLE -XIV

**Highlights of Water Supply Under Jal Jeevan Mission in
Greater Kharupetia Master Plan Area**

Capacity of Water Distribution (Ltr)	Persons Covered	Total Distribution Network (Km)	Nos. of Water Reservoir	No. of Connection
31,00000	95,315	493.886	49	16748

Source :- Public Health Engineering, Mangaldai.

7.2 STROM WATER DRAINAGE :

There is no planned storm water drainage system in the town except a few road side drains constructed by PWD and Kharupetia Municipal Board. The natural topography of the Master Plan area is practically flat which poses a great challenge to design an efficient drainage network for the Master Plan area.

Apart from other low lying area and water bodies, there are two rivers flowing across the Master Plan area, namely, Tangni and Nimtoli River which eventually fall

in to the Brahmaputra. But during the monsoons, when the Brahmaputra is in full swell, these rivers are not in a position to discharge the rain water and consequently all the low-lying areas are submerged. These rivers do not have any embankments to protect the town from the flood water. Moreover, the town being devoid of drains, the accumulated rain water is unable to flow out and thus inundating the low lying areas of the Master Plan area. The newly developed areas are the worst sufferers in this regard.

Thus there is a felt need to chalk out a Drainage Master Plan and highlight a few feeder drains to converge on the river Tangni and Nimtoli. There is an immediate need to construct trunk drains along the National Highway as well as other arterial and sub arterial roads.

7.3. SEWERAGE :

There is no sewerage system for the entire Master Plan area. All the households are equipped with sanitary latrines with individual septic tanks or pit latrines. In case of sanitary latrines, the effluent are discharged in soak pits. As the sources of water supply for the household are shallow wells, there is a possibility for contamination of ground water and this poses a great threat to public health.

7.4 HEALTH

The Medical facilities in the Master Plan area is inadequate. There are two Government Hospitals, one at Kharupetia and another at Dalgaon along with 9 Sub centers in the Master Plan area. Total number of beds in the entire Master Plan area is 33 only. The details of Health Facilities are given in the Table below:

TABLE- XV
Details of Health Facilities in Greater Kharupetia Master Plan Area

Sl	Name	Location	Type	No of Beds	No. of Staff		
					Doctor	Nurse	Other Para Medical Staff
1	Ozagaon Sub Centre	Ozagaon	Sub Centre	0	0	2	0

2	Keotchuba	Keotchuba	Sub Centre	0	0	2	1
3	Baigarmari Islampur	Baigarmari	Sub Centre	0	0	2	0
4	Dalgaon SD	Dalgaon Town	Govt. Hospital	3	3	3	3
5	Mandalpara	Mandalpara	Sub Centre	0	0	2	1
6	Paschim Bahabari	Bahabari	Sub Centre	0	0	2	2
7	Khakjani	Khakjani	Sub Centre	0	0	2	0
8	Gadaiijar	Gadaiijar	Sub Centre	0	0	2	1
9	Batabari	Batabari	Sub Centre	0	0	2	1
10	Jamalpur	Jamalpur	Sub Centre	0	0	1	0
11	Kharupetia CHC	Nagazan	Govt. Hospital	30	13	14	20

However, a few private clinics and a hospital named Dew Care Hospital is coming up in Khakhjani Village near Buri Gaon to cater to the increasing demand.

7.5. EDUCATION

In Greater Kharupetia Master Plan area there are altogether 94 numbers of educational institutions ranking from Lower Primary school to college level with a student population of about 21858. In the following table different categories of educational institutions together with the number of students are shown. The higher institution are mainly concentrated along the NH 15, which also cater to the need of the surrounding rural areas.

The Kharupetia College, a premier institute in the locality, which is situated within the Kharupetia Municipal area was established in the year 1981. Further, with the establishment of Deendayal Upadhyaya Adrasha Mahavidyalaya, a model degree college at Dalgaon, in the year 2017-18, the area gained a very important

place in the education map of Assam. Further, the District Institute of Education and Training is also situated here which basically imparts degree in Education to build up a carrier in teaching. Apart from the above there are also a few private educational institutes are coming up in Master Plan area.

Considering the total population served by these educational institution the number of institutes are not sufficient which is reflected in their overcrowding as well as poor infrastructure specially in the Middle and Higher level of education.

TABLE – XVI
EDUCATIONAL INSTITUTION GREATER KHARUPETIA
MASTER PLAN AREA

Sl	Institutes	Enrolment			Employee/ Teachers	No. of School/ Colleges
		Total	Male	Female		
1	L.P. School	12383	6227	6156	374	77
2	M.E. School	2052	751	1301	53	6
3	High School	1543	733	810	56	5
4	Higher Secondary School	2683	1376	1307	83	4
5	Higher Education	3197	1416	1780	75	2
6	Total	21858	10503	11354	641	94

7.6 SOCIAL AND CULTURAL INSTITUTIONS :

The Kharupetia and Dalgaon locality serves the town as well as the surrounding areas in respect of the social and cultural needs. People flock from the nearby areas during the Durga Puja and Eid festival or when there is a huge fair.

There are a good number of religious places at Kharupetia belonging to both the religion Hindu and Islam. Some of them are, Smashan Kali Mandir, which is one the famous temple in Assam, Ramkrishna Sevashram, Hindu Milan Mandir (Bharat Sevashram), Hanuman Mandir, Jain Temple, Satsangha Vihar, Soni Mandir, Barowari Puja Mandir, Tilapatty Kali/Durga Mandir, Chariali Shiv Mandir, Trinath

Ashram, Town Jame Maszid, Nimtoli Jame Maszid, Daily Bazar Durga Mandir, Loknath Mandir, Thakurpatty Soni Mandir, Jagatbandhu Mandir, Maa Sontoshi Mandir, Namghar, Nimali Maszid, Petrol Depo's Shiv Mandir etc.

There is a Cinema hall in the town which is presently in not running condition.

7.6. PARKS, PLAY GROUND RECREATIONAL AND OPEN SPACE:

At present, there are hardly any organised active or passive recreational facilities in the Master Plan area. The only established park, namely, 'Gandhi Smriti Udyan' situated at ward no. 4 in Kharupetia Town.

There are two play grounds, one under Khaupetia Municipal Board and another under Kharupetia Higher Secondary School, both situated at ward no. 4.

7.7 OTHER UTILITIES AND SERVICES :

7.7.1 POST AND TELEGRAPH OFFICES :

There is two post and telegraph offices, one at ward no. 4 and another at ward no. 9, both located along the NH 15 and accessible for public at large.

7.7.2. POLICE STATION :

There are two Police Stations, one at ward no. 3, Netaji Nagar, Kharupetia and another at Dalgaon.

7.7.3. FIRE STATION :

The Fire Station under Fire and Emergency Services of Assam is located at Tillapatty road at ward no. 4.

CHAPTER - VIII

8.0. URBAN FUNCTIONS AND FUTURE NEEDS :

Preparation of Master plan for a town is an effort to evolve scientific and rational policies which will meet functional needs of the town and yet satisfy aesthetic and emotional aspirations of its citizens. This requires systematic analysis of present problems and inadequacies of the town and a judicious assessment of future requirements particularly for the period for which the plan is prepared and in this instant case up to the year 2041.

Various issues, problems and shortfall in Greater Kharupetia Master Plan area have been systematically studied and described. Based on the present functions of the town and also based on the existing scenario, an assessment have been made for the future needs of the Master Plan area. While looking into future needs consideration has been given to the major functions which the town will be required to carry out, the trends of development of other urban centres in the region, Government policies, scope for industrial and other economic development activities. Following issues need to be addressed in order to arrive at future demand in various sectors.

1. Population projections particularly within plan period for assessment of various demands
2. Break-up of population in terms of number of families to assess housing requirements.
3. Specific needs of trade and commerce and specialised markets.
4. Public utilities and amenities and drainage.
5. Transportation network and terminal centres for efficient movement of people and goods.

8.1. MAJOR URBAN FUNCTIONS :

On the basis of the potential, major urban functions envisaged for Greater Kharupetia Master Plan area are described below which are required to be understood in order to chalk out policy prescription for future. Relative impact of these functions on the future growth of the Master Plan area are to be noted in order to draw a frame work for overall development of the Master Plan area.

8.1.1. COMMERCIAL AND TRADE CENTRE :

Greater Kharupetia area have already been identified as a prominent commercial and trade center in the region. The town would also perform as market town for the surrounding area. This function is to be boosted further which will call for appropriate infrastructure and land.

8.1.2. VEGETABLE GRANARY, AGRO RESEARCH & PRODUCTION CENTRE

It has been mentioned earlier that Kharupetia is famous for vegetable and other agro products. This function is to be further promoted through proper infrastructure and other peripheral activities, namely, Agro based research centre with a 'Lab to Land' concept to further boost up the agricultural productions.

8.1.3. ACADEMIC & SKILL DEVELOPMENT CENTRE :

The Kharupetia and Dalgaon towns are emerging slowly as an academic centre in the area as students from surrounding villages flock in to the institutes to pursue academic carrier. This function is to be further promoted through suitable policies to establish an academic and skill development hub.

8.1.4. SECONDARY ADMINISTRATIVE CENTRE :

Though the district headquarter is established at Managaldai, Kharupetia can be developed as a secondary administrative centre with establishment of Sub divisional level establishment which can be centrally located for easy access of public.

8.2. PLAN PERIOD :

Though the growth of an urban settlement is a dynamic process and can not be confined to a particular time frame, yet for preparation of a Master Plan, it is necessary to assume a time span and mark a "Horizon Year" in order to chalk out policies. The Horizon Year facilitates to quantify the various requirements for the city during the period .

The plan period for Greater Kharupetia Master Plan has been taken up to 2022 – 2041 for a time span of 20 years to make a realistic approach. It will facilitate to incorporate the census data in 2031 and 2041 as and when a revision of Master Plan is required.

Though the plan period for Greater Kharupetia Master Plan has been taken for 20 years, interim revision may be carried out every 5 years to make it more dynamic.

8.3. FUTURE POPULATION AND CHARACTERISTICS :

8.3.1. POPULATION PROJECTION :

An assessment of the future population for the plan period and its characteristics plays a pivotal role for preparation of Master Plan for an urban area as all the requirements for infrastructure, facilities and amenities are dependent on it. Further break up and classification of the estimated population in terms of number of households, working population, student population requiring educational facilities along with socio-economic structures are required to assess type of houses and amenities requires. However, while making an assessment in respect of health and education, the same will have to be based on the population of the town as well as that of the surrounding villages utilising these facilities.

It would be difficult to work out the exact estimate of future population of a town as the factors on which growth of population is dependent, are most of the time, can not be foreseen with accuracy. There are too many variables, and unknown factors involved in estimation and therefore a fair consideration of past trend may be made to arrive at a figure which will suffice the requirement for the present Master Plan. To arrive at a population figure, decennial growth method has been adopted here since this is the simplest of all the methods and is easy to adopt in this instant case.

As the Master Plan area consists of Kharupetia Municipal Board as well as the surrounding villages as per schedule, the population can be divided into Urban and Rural and accordingly future projection for population will also be made. Following are the facts taken into consideration while working out the population projection for Greater Kharupetia Master Plan area.

- a) An observation on the growth of population for Greater Kharupetia Master Plan area will reveal that growth rate in rural area is more than the urban and therefore rural population shall be dominant.
- b) Though the decennial urban growth rate during 2001-2011 came down drastically to 4.03% , it is expected to increase this to 8% for 2011- 2021. Accordingly, during 2021-2031 and 2031-2041 growth rate for urban population may be assumed at 12% and 18%.
- c) For rural population, the decennial urban growth rate during 2001-2011 came down to 33.04% , it is expected to increase this to 35 % for 2011- 2021. Accordingly, during 2021-2031 and 2031-2041 growth rate may be assumed at 40 % and 45 %.
- d) Accordingly for overall Master Plan area the growth rate for Master Plan area for the year 2011-2021, 2021-2031 and 2031-2041 can be very well adopted as

30.59 %, 36.22 % and 42 %. Thus the target population for the horizon year 2041 will be 286349.

TABLE -XVII
Population Estimates for
Greater Kharupetia Master Plan Area

Year	Population					Decadal % Growth
	Urban	% Growth	Rural	% Growth	Total	Master Plan Area
1971	10448	-	30965	-	41413	-
1991	15342	46.84#	51392	65.96	66734	61.14
2001	17783	15.91	71094	38.33	88877	33.18
2011	18501	4.03	94852	33.04	113353	27.54
2021*	19981	8	128050	35	148031	30.59
2031*	22379	12	179270	40	201649	36.22
2041*	26407	18	259942	45	286349	42.00

Vicennial growth rate

* Projected population

Source : Census of India & T & CP

8.3.2. OCCUPATIONAL STRUCTURE - ESTIMATES :

Occupational structure reflects the composition of the total workforce which in turn reflects various activities thriving in the city. In order to chalk out a detail Zoning and Land Use proposal for the Master Plan, it is essential to have an fairly good idea of changing occupational trend likely to take place during the plan period.

Although in absence of adequate data, it is further difficult to foresee a correct picture of distribution of working force up to the year 2041, yet some approximate estimate are possible which can be used for estimation of land requirement for various activities.

Following the decreasing trend in primary sector, from 1971 to 2011, for the year 2041, it is further expected to come down to 60%. Similarly work force in secondary sector is expected to rise up to 15% and the tertiary sector shall grow up to 25%.

Sectors	Percentage of workers to total main workers						
	1971	1991			2011		
	Total Workers	Total Workers	Male	Female	Total Workers	Male	Female
Primary	85.20	76.0	68.0	8.0	66.80	60.68	6.12
Secondary	5.50	7.60	6.90	0.70	11.70	8.40	3.30
Tertiary	9.30	16.40	11.60	4.80	21.50	16.0	5.50

Assuming 35% of the total population shall constitute the work force for the Greater Kharupetia Master Plan Area, the target working population shall be as follows:

TABLE- XVIII
Projected Work Force, Greater Kharupetia Master Plan

Year	Total Population	Work Force (35%)	Primary (60%)	Secondary (15%)	Tertiary (25%)
2041	286349	100222	60133	15033	25056

8.4. HOUSING DEMAND :

On the basis of a survey conducted by the District Office, Town and Country Planning and because of the intervention of the flagship program, Pradhan Mantri Awas Yojana both Urban and Rural, the backlog in housing demand at present is nil. But as per structural condition of the housing stock, 25.30% is in bad condition which requires replacement.

The average household size in Greater Kharupetia Master Plan Area is 5.40. Accordingly, considering the structural condition the housing demand has been estimated as below.

TABLE -XIX**Estimates for Housing Demand Greater Kharupetia Master Plan Area**

Year	Urban	Rural	Total	Av H/H Size	Total H/H	% Demand	Net Demand
2021*	19981	128050	148031	5.4	27413	12.30	3372
2031*	22379	179270	201649	5.2	38779	10	3878
2041*	26407	259942	286349	5.0	57270	8	4582

* Projected population

At present, qualitatively, demand for housing is 3372. It is assumed that the housing demand as well as the average house hold size will decrease as shown above for the year 2031 and 2041. Accordingly the housing demand for the horizon year 2041 will be 4582.

8.4.1. DEMAND IN WATER SUPPLY

On the basis of the projections made and also on the basis of the Water Supply proposal under Jal Jeevan Mission by PHE the following is the requirement in water supply for Greater Kharupetia Master Plan area.

TABLE- XX**Estimate For Water Supply Demand in Greater Kharupetia Master Plan Area**

Year	Persons Covered/ To be covered		No. of Connection (H/H) Covered/ To be covered		Capacity of Water Distribution (Ltr)	
	Covered	To be Covered	Covered	To be Covered	Proposed	Required
2021	95,315	148031	16748	27413	31,00000	8141705
2031	-	201649	-	38779	-	11090695
2041	-	286349	-	57270	-	15749195

From the above Table the following is the gap in water supply in the proposed period upto 2041:

TABLE –XXI**Gap in Water Supply in Greater Kharupetia
Master Plan Area**

Year	Addl Persons to be covered	Gap in Quantity (Ltrs)
2021	52716	5041705
2031	106334	7990695
2041	191034	12649195

CHAPTER - IX

9.0. PROPOSED MASTER PLAN FOR GREATER KHARUPETIA AREA :

9.1. AIMS AND OBJECTIVES :

A master plan is a dynamic long-term planning document that provides a conceptual layout to guide future growth and development. Master planning is about making the connection between man made objects, social settings, and their surrounding environments. It includes analysis, recommendations, and proposals for the population of Master Plan area, economy, housing, transportation, community facilities, and land use. It is based on public input, surveys, planning initiatives, existing development, physical characteristics, and social and economic conditions.

9.1.1. AIMS:

The aim of Greater Kharupetia Master Plan is to guide for a balanced growth of the Master Plan Area by integrating the development potentials to boost up economic activities and to generate employment opportunities.

9.1.2. OBJECTIVES :

- i. To boost up the commercial activities and to develop it as a prominent trade and commerce center.
- ii. To organise the agro based market and to provide appropriate infrastructure.
- iii. To facilitate setting up of infrastructure to promote agro based research.
- iv. To chalk out policies for academic and skill development center.
- v. To shape up the urban structure by integrating the major urban functions through efficient and judicious utilisation of land.
- vi. To draw up an efficient transportation network by integrating intra-urban and inter urban movements.
- vii. To promote harmonious development of residential area.
- viii. To provide basic facilities and amenities for convenience of public

9.2 BASIC CONSIDERATIONS :

The study of land use pattern, traffic and transportations, physiography, housing and services and work centres contained in previous chapters have brought on many significant issues to be addressed while preparing this Master Plan. Equally important are the scopes and opportunities available in greater Kharupetia which are to be considered to guide the future course of development for Kharupetia.

Following are the basic points which will form guiding factors for preparation of the Master Plan for Greater Kharupetia.

- a. Retain the existing flavour of Kharupetia as the granary for vegetables and agro based produces.
- b. Protect and utilise the institutional and other Government lands into efficient uses and for agro based industries and research institutes.
- c. Develop appropriate hierarchies in markets and other facilities to boost up the trade and commerce.
- d. Encourage establishments of small industrial units.
- e. Provide efficient circulation pattern to avoid through traffic.
- f. Rational distribution of residential densities so as to minimise disparities.
- g. Provision for utilities and services in an integrated manner for the whole Master Plan area.

9.3. PLAN CONCEPT :

The plan is prepared on the basis of "Spread Out concept" where the activities are distributed across the planning area to create a balance. The ribbon development taken place along the existing NH 15 running through Kharupetia Town is maintained. New express way is proposed towards north bypassing the town which will open up the hinterland providing scope for more development and mixed use creating investment opportunities.

9.4. PROPOSED ZONING & LAND ALLOCATION :**TABLE- XXII****Proposed Zoning of Greater Kharupetia Master Plan Area, 2041**

Sl	Land Use Categories	Area in Ha	PC of total area
(1)	Residential	2575.00	42.58
(2)	Commercial	198.45	3.28
(3)	Industrial.	414.82	6.86
(4)	Public – Semi public	450.33	7.45
(5)	Recreational	261.37	4.32
(6)	Open space	105.45	1.74
(7)	Green Belt	29.95	0.50
(8)	Eco Zone	125.46	2.07
(9)	Agriculture	1078.93	17.84
(10)	Water bodies.	105.60	1.75
(11)	Transportation	353.02	5.84
(12)	Composite I Zone	349.63	5.78
	Total Area	6048.00	100

A judicious approach has been taken to allocate the available land to different uses for Greater Kharupetia Master Plan Area. It has been proposed to retain the existing flavour of the locality as agro based town. Effort have been made to allocate the land as per the provision of URDPFI Guideline. Following are the highlights of the proposed Zoning:

9.5.1. RESIDENTIAL AREA:

The Master Plan area envisages distribution of residential areas in terms of self contained residential entities which interact with the other groups and with the work centre in a harmonious way for overall efficiency of the town. In Greater Kharupetia area, the residential areas are very under utilised. Hence, in the proposed plan, emphasis is laid out on increasing the density so as to achieve optimum utilisation of urban land. The total area to be required for residential use of the future population is thus estimated at 2575 Ha which forms 42.58% of the total land proposed for development. Target density maintained at 111 Persons/ Ha.

9.5.2 COMMERCIAL AREA :

In order to promote the characteristics as a agro based commercial town, it is envisaged that a proper hierarchy in trade and commerce is to be set up. Accordingly it is proposed to provide a wholesale market along with storage godown along the bye pass at Kharupetia. The existing ribbon development along the NH 15 is maintained as a retail commercial with commercial hubs at convenient localities. The total area earmarked for commercial use is 198.45 Ha which is 3.28% of the total developed area.

9.5.3. INDUSTRIAL AREA :

It is envisaged that with the growth of agricultural produce in the region, there will be an opportunity to set up agro based and food processing industries. Accordingly, a total area of 414.82 Ha, has been proposed in the Master Plan which will constitute 6.86% of total developed area.

9.5.4. PUBLIC AND SEMI-PUBLIC :

This category consists of multiple uses like Govt. and semi-Govt. offices of various levels, education and health amenities, socio-cultural and religious institutions. Further there is scope to set up agro based research institutes in the concept of 'Lab to Land'. Accordingly area earmarked for this use is 450.33 Ha constituting 7.45% of the total developed area.

9.5.5. RECREATIONAL :

The recreational spaces are basically the rejuvenation points for the citizens. These are organised open spaces like parks and play ground. It is proposed to provide an area of 105.45 Ha for this use which will constitute 4.32 % of total developed land.

9.5.6. OPEN SPACES:

These are vacant land reserved for future use and in majority of the cases it belongs to Government. The land in this category is 105.45 Ha which constitute 1.74 % of the total Master Plan area.

9.5.7. GREEN BELT:

Green Belts are the lung of Master Plan Area which also acts as buffer for future un planned growth. Total area allocated under Green Belt is 29.95 Ha which is 0.50 % of the total Master Plan Area.

9.5.8. ECO ZONE :

These are no development zone which requires conservation and preservation. All the area under natural water course, the riverine area and the area under sensitive eco system and char area falls under Eco Zone. The area under this zone is 125.46 Ha which is 2.07 % of the Master Plan area.

9.5.9. AGRICULTURE :

In this Master Plan it is proposed to retain the identity of Greater Kharupetia as an agriculturally rich area and accordingly agricultural area are preserved in the residential zone to the extent possible . The area under agriculture is 1078.93 Ha constituting 17.84 % of the total area.

9.5.10. WATER BODIES :

Water Bodies in the Master Plan area are retained and preserved. This zone consists of river courses and ponds and total area under water body is 105.60 Ha constituting 1.75 % of total Master Plan Area.

9.5.11. TRANSPORTATION :

This category of land-use includes land for roads, network, terminal centre , bus depots, parkin areas, etc . The total land earmarked under transportation is 353.02 Ha which form 5.84 % of the total developed area.

9.5.12. COMPOSITE ZONE :

Composite Zone is basically a mixed land use zone with compatible uses which avoids any polluting or hazard prone industries. Towns in India as well as in Assam are characterised by mixed land uses. In a way, many a times, the concept of mixed land use has proven to be efficient in terms of utilisation of available land. The mixed use also reduces the travel time between work center and home. Further in a

transit oriented development it has always been advocated for mixed land use to use the potential of transit corridor. In Greater Kharupetia Master Plan a Composite Zone has been proposed along the Bypass towards North. The area proposed under Composite Zone is 349.63 Ha constituting 5.78% of total Master Plan Area.

CHAPTER -X

10.0 PROPOSED CIRCULATION PLAN :

Proper growth and functioning of a city is very much dependent on an efficient circulation plan backed by efficient transportation system. The proposed circulation plan for Greater Kharupetia Master Plan Area is designed to achieve function oriented transportation system. The proposed Circulation Plan is based on the following basic consideration :

- (i) Optimum use of the existing road net work through widening, realignment and improvement.
- (ii) Development of new roads and transportation facilities like truck terminals, bus stands etc.
- (iii) Provisions of adequate car parking facilities.
- (iv) Provisions of effective linkages within the town and the region.
- (v) Segregation of regional and city traffic.

10.1 REGIONAL LINKAGES :

10.1.1.ROAD LINKAGE :

Though the National Highway 15 passing through Kharupetia and Dalgaon could be considered as a boon to the locality for its development as a trade and commerce center, with growth of the town, the Highway has also posed issues like traffic congestion, accidents and parking problem. It is now imperative that NH 15 is to be redirected bypassing the urban area.

Accordingly, it has been proposed to align an Urban Express Way bypassing the Kharupetia and Dalgaon locality. The above Express way shall originate at Nij Kharupetia Village and shall pass through 3 no. Thekeraguri, Nadimukh, Bahbari, Kamarpara, Baroipara, Nij Godhaijar, Jamalpur, Kakalbhanggi Jagi Gaon and Batabari Village.

10.2. CIRCULATION PATTERN :

The entire circulation system of Greater Kharupetia Master Plan Area is proposed to be classified as per following hierarchical order.

TABLE-XXIII
Road Hierarchy in Greater Kharupetia Master Plan Area

Road Hierarchy	Road Length in Metre	Road_width in Metre
Proposed Urban Expressway	12032.89	60.00
Existing Urban Expressway	14859.37	57.00
Arterial Road	36622.50	50.00
Sub Arterial Road	27933.98	30.00
Distributor/Collector Road	42022.23	12.00
Local Street	239848.79	12.00
Access Street	3644.26	6.00
	376964.03	

1) Proposed Urban Expressway : Urban Expressways are divided highways for through traffic with full or partial control of access and generally with grade separations at major crossroads. It is proposed with ROW 60.00 m bypassing the populated area in the line of Transit Oriented Development (TOD) and accordingly Composite Zone has been proposed towards south of this Expressway. Total length of Expressway is 12.032 Km

2) Existing Urban Expressway : NH 15 passing through Greater Kharupetia Area is to be retained with an average ROW of 57 m. This will be the major arterial road passing through Greater Kharupetia Master Plan Area and rest of the roads will act as feeders to it. Total length retained is 14.859 Km.

3) Arterial Road : They are the primary roads for ensuring mobility function. They carry the largest volumes of traffic and longest trips in a city. These roads are characterized by mobility and cater to through traffic with restricted access from carriageway to the side. In such cases, special provisions should

be introduced to reduce conflict with the through traffic. The total length of arterial road identified is 36.62 Km.

4) Sub Arterial Road: This category of road follows all the functions of an Arterial Urban road and is characterized by mobility, and caters to through traffic with restricted access from carriageway to the side. It carries same traffic volumes as the arterial roads. Due to its overlapping nature, Sub arterial roads can act as arterials. This is context specific and is based on the function and the land use development it passes through. Total length under Sub Arterial category is 27.93 Km

5) Distributor/Collector Roads: As the name suggests, these are connector roads, which distribute the traffic from access streets to arterial and sub arterial roads. They are characterized by mobility and access equally. It carries moderate traffic volumes compared to the arterial roads. Due to its overlapping nature, distributor roads can act as sub arterial and as access streets, depending upon the function and the land use of the surroundings. Total length of Distributor/ Collector road is 42.02 Km

6) Local street: These are intended for neighbourhood (or local) use on which through traffic is to be discouraged. These roads should be made pedestrian and bicycle friendly by using modern traffic calming designs to keep the speeds within limits as per design. Total length of Local street is 240 Km

7) Access street: These are used for access functions to adjoining properties and areas. A majority of trips in urban areas usually originate or terminate on these streets. Total length identified is 36.44 Km

10.3. TERMINAL FACILITIES:

(I) BUS TERMINAL :

An inter City bus terminal has been proposed at Nij Kharupetia and 3 no. Thekeraguri Village along the proposed Expressway with an area of 32 Ha. The

existing ASTC bus terminal in Kharupetia will also continue to function and shall also be used for parking facilities with appropriate infrastructure.

(II) TAXI, PARA TRANSIT, PARKING AND MULTIPURPOSE COMPLEX :

A multi purpose Complex facilitating as Taxi, Light Vehicle, Para Transit along with parking facilities for other vehicles has been proposed near the proposed Inter City Bus Terminal at Nadimukh Village. This will also house a commercial hub for convenience of public. Total area earmarked for this is 10 JHa.

(III) TRUCK TERMINAL :

One truck terminal with all necessary servicing facilities are proposed on the proposed Expressway at Bahbari Village. This is also nearer to the wholesale market proposed in Master Plan to facilitate the movements of goods etc.

CHAPTER – XI

11.0. PROPOSED UTILITY IN GREATER KHARUPETIA MASTER PLAN (STORM WATER DRAINAGE)

11.1. PROPOSED DRAINAGE :

Planning a drainage system in Kharupetia Master Plan area is indeed a challenging task as the terrain is a flat one. However, on the basis of the available data based on google map a conceptual drainage plan has been chalked out for Kharupetia Master Plan Area.

11.1.1 BASIC CONSIDERATIONS :

While making the plan for the drainage system the following considerations have been made:

- a) The two tributaries of Brahmaputra river, namely Tangni and Nimtoli rivers flowing through the Master Plan area shall act as major drainage outlets to drain out the water from town area.
- b) These two rivers are to be earmarked with the help of the Revenue and Disaster Management Department and any encroachment on it should be removed immediately. The channel need to be conserved.
- c) Necessary channel improvement works along with re-sectioning and dredging wherever required are to be carried out.
- d) Drains are to aligned along the major roads and accordingly hierarchy of drains are to be maintained.

11.1.2. HIEARARCHY OF DRAINS IN MASTER PLAN AREA:

Based on the above considerations the following are the hierarchies of drains worked out:

(A) Primary Drain :

Theses are basically trunk drains along the major roads like Express ways and existing high ways which shall finally drain out the water to natural streams for final disposal of storm water.

(B) Secondary Drains :

These are feeders drains for the primary trunk drains as mentioned above and shall be aligned along the major arterial roads. These shall be designed as drains cum foot paths for convenience of the commuters.

(C) Tertiary Drains :

These are the foot path cum collector drains from sub catchment area which shall dispose the water into the Secondary drains. These shall be aligned both along the Arterial and Sub- arterial roads depending on the situation.

Following table gives the length of drains proposed for the Master Plan area:

TABLE –XXIV
Hieararchy in StormmWater Drains

Hierarchy of Storm Water Drains	Length in Km
Primary Drain (Trunk)	26.88
Secondary Drain	36.63
Tertiary Drain	28.00

CHAPTER - XII

12.1 PLAN IMPLEMENTATION :

The Master Plan preparation process shall be fruitful if sustained efforts are made to enforce and implement the plan proposals. However there is always a built in scope for critical examination of the proposals laid down in a Master Plan. The out line of development policies put forward in the Master Plan shall go a long way in shaping the urban environment and thereby mitigating the ill effects of urbanisation. Citizens of the area also play major role in the successful implementation of the plan.

12.2. PLAN ADMINISTRATION :

The Master Plan for Greater Kharupetia prescribes the broad policies and programmes for improvement of the region up to the year 2041. The administration of the Plan will be carried out under the provisions of the Assam Town and Country Planning Act of 1959 (as amended).

Section 8 A of the Assam Town and country Planning Act, 1959 empowers the State Government to constitute a "Development Authority" for enforcement, control and implementation of development proposals envisaged in the Master plan. As the Master Plan also encompasses the Municipal area, within the Municipal Limit the Master Plan shall be enforced by the Kharupetia Municipal Board as per the provision of the Assam Municipal Act, 1956.

11.3. PUBLIC PARTICIPATION :

Master Plan implementation can not be successful without active public participation as Citizens play a major role in the physical development of a city by undertaking construction and reconstruction of structures and development of land for various uses. Therefore, it is imperative that the Master Plan should be widely

published to draw requisite attention from public in order to create an overall consciousness.

11.4. CONCLUSION :

Urbanisation is an inevitable process and bound to happen. Master Plan provides a scope to for see the future development and can be treated as an eye opener for the policy makers. Un planned growth of the cities has posed many problems in the past.

Cities are the engines of growth and hence a planned city with efficient functional behaviour can contribute not only to the economy of the locality but also stand out as an important growth center in the region serving a vast hinterland effectively.









